



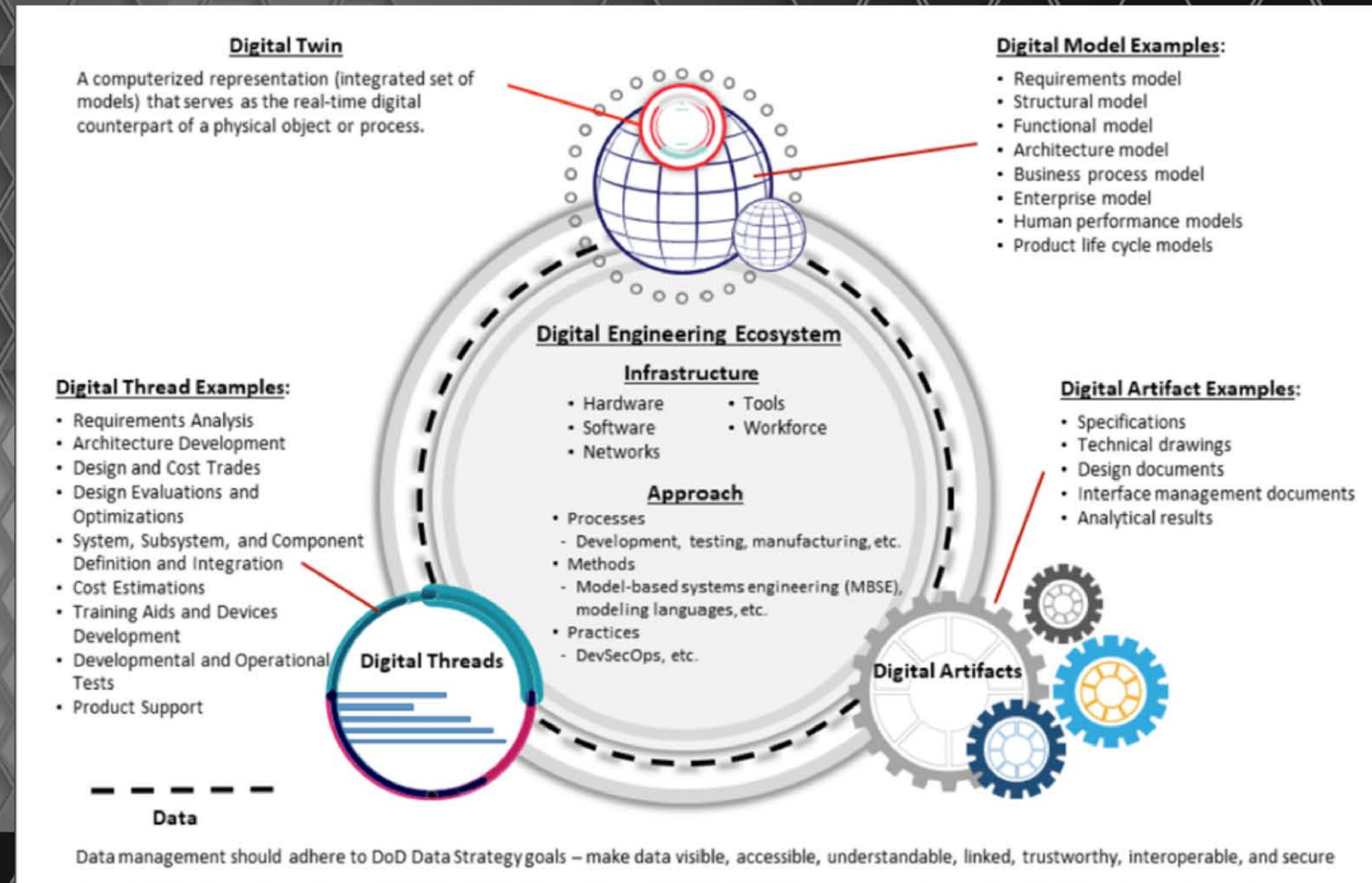
ENOLA

Introduction to DIGITAL ENGINEERING

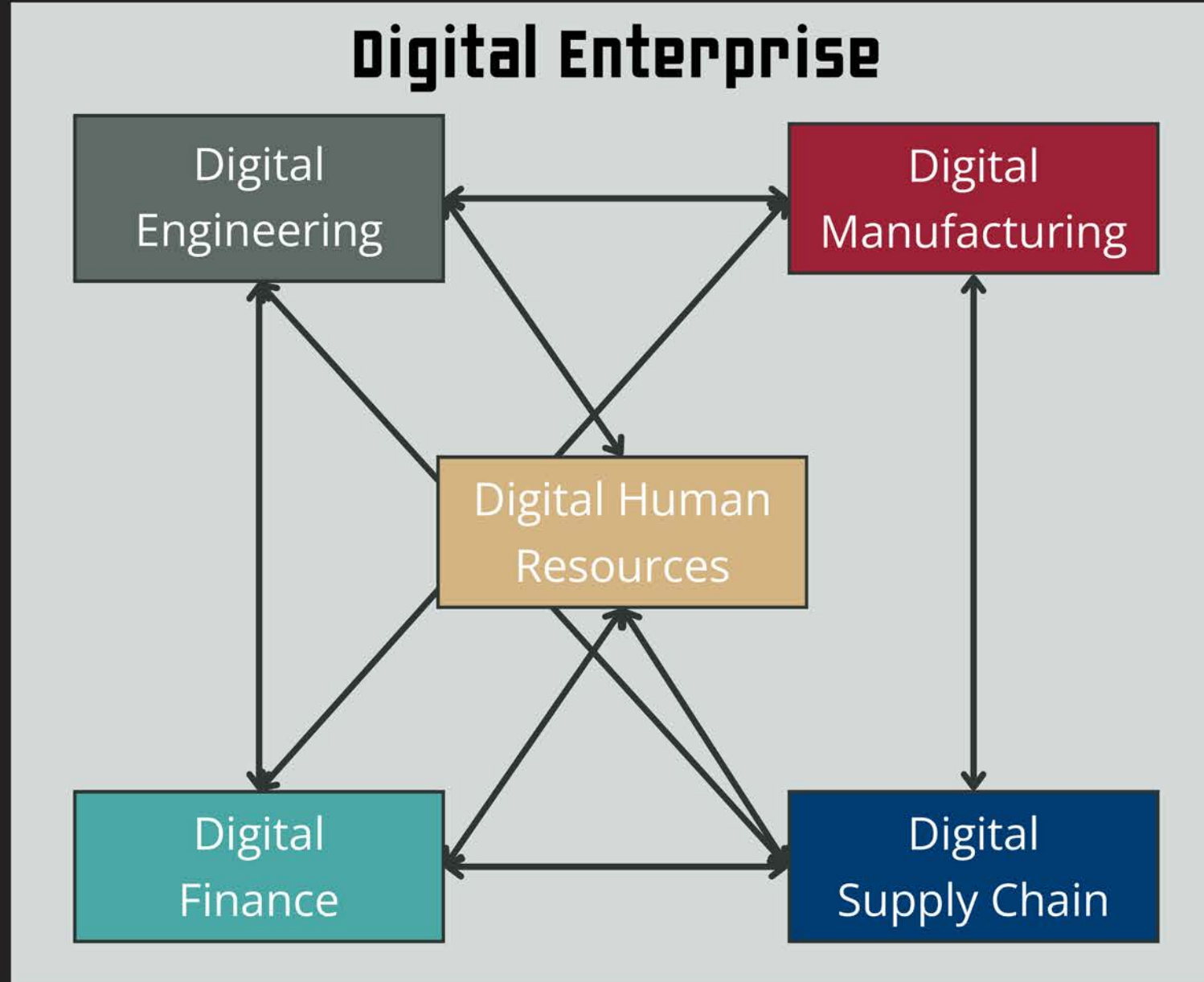
Date: March 12, 2024
Presented by: Aleczaider Jackson
Peter Lunk

Digital Engineering DEFINITION

- Digital engineering is a means of using and integrating digital models and the underlying data to support the development, test and evaluation, and sustainment of a system (DoDI 5000.97)
- The process of digital engineering involves integration of all the data within a given organization that pertains to the architecture, design, and test of a given system.
- Expected benefits include:
 - Automated impact analysis of changes
 - Reduced lifecycle cost from synchronization and reuse of data
 - Reduction in risk before production of a system



Digital ENTERPRISE



Digital Enterprise differs slightly from Digital Engineering in that it involves digitization of the data across an entire organization, not just that pertaining to a given system.

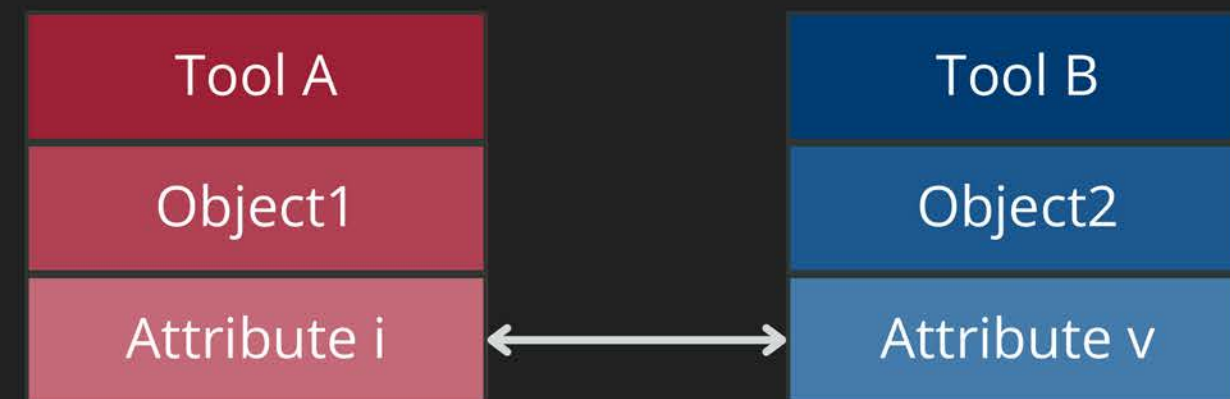
Digital Enterprise involves integration of the data across all of the core divisions within the organization incorporating data from supporting groups like:

- Engineering
- Finance
- Operations
- Quality
- Manufacturing
- Supply Chain
- Human Resource
- Etc.

Digital THREAD

An extensible and configurable analytical framework that seamlessly expedites the controlled interplay of technical data, software, information, and knowledge in the digital engineering ecosystem, based on the established requirements, architectures, formats, and rules for building digital models. It is used to inform decision makers throughout a system's life cycle by providing the capability to access, integrate, and transform data into actionable information. ([DoDI 5000.97](#))

In layman's terms, an integration between the data that exists within the digital enterprise across tool/database boundaries.



AGENDA

| Title | Presenter | Time |
|--|--|----------------------|
| Empowering Engineering Organizations with Deep Learning | Lorenz Frey (Neural Concept SA) Thomas Von Tschammer (Neural Concept SA) | 8:30 – 9:00 |
| Intelligent Bellow Design with Reduced Design Time and Enhanced Design Diversity | Chi-Ta Yang (Eaton) Gerry Berard (Eaton) | 9:00 – 9:30 |
| Coffee Break | | 9:30 – 10:00 |
| Open Plenary & Keynotes - E220 BCDE Hangar | | 10:00 – 11:30 |
| SAE International – Advancing Aerospace - E220 BCDE Hangar | | 11:30 – 12:00 |
| Networking Lunch in Exhibit Hall | | 12:00 – 1:00 |
| The “Transform Manifesto” for Engineering Documents | Andrew Bank (XSB/SWISS) | 1:00 – 1:30 |
| Digital Engineering with AI--From the Ground Up | Barclay Brown (Collins Aerospace) | 2:00 – 2:30 |
| Digital Transformation of Engineering Documents: Creating Digital Twin Documents | Andrew Bank (XSB/SWISS) | 2:30 - 3:00 |
| Coffee Break | | 3:00 – 3:30 |
| Digital Engineering Panel | Lorenz Frey, Chi-Ta Yang, Andrew, Bank, Barclay Brown, Charles Giarratana | 3:30 – 5:00 |
| Welcome Reception | | 5:00 – 6:30 |

MBSE-DAY AGENDA

| Title | Presenter | Time |
|---|---|---------------|
| Transforming AADL Models into SysML 2.0: Insights and Recommendations | Kyle Litwin (Collins Aerospace) | 9:00 – 9:30 |
| Coffee Break | | 9:30 – 10:00 |
| Open Plenary & Keynotes - E220 BCDE Hangar | | 10:00 – 10:20 |
| SAE Awards - E220 BCDE Hangar | | |
| Keynote: Boeing Commercial Airplanes Product Development Update | | 10:20 – 11:00 |
| Keynote: Delivering on the Promise of Autonomous Flight | | 11:00 – 11:45 |
| GoAero Prize with Gwen Lighter, CEO, GoAero and GoFly | | 11:45 – 12:00 |
| Networking Lunch in Exhibit Hall | | 12:00 – 1:00 |
| MBSE work on the NASA High Density Vertiplex Subproject | Demetrios Katsaduros (NASA) | 1:00 – 1:30 |
| SWISS: a Model Based Approach to the Standards Ecosystem | Andrew Bank (XSB/SWISS) | 1:30 – 2:00 |
| MBSE Standard Incorporation | Paul Watson (Belcan) | 2:30 - 3:00 |
| Coffee Break | | 3:00 – 3:30 |
| MBSE Panel | Jim Murphy, Kyle Litwin, Andrew Bank, Paul Watson | 3:30 – 5:00 |
| NASCAR Hall of Fame Networking Event | | 6:30 – 9:30 |